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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,262	10/27/2003	Sumit Majumder	ANALOG.6687	4122
55740	7590	12/02/2005	EXAMINER	
GAUTHIER & CONNORS, LLP 225 FRANKLIN STREET BOSTON, MA 02110			ROJAS, BERNARD	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,262	<b>Applicant(s)</b> MAJUMDER, SUMIT	
	<b>Examiner</b> Bernard Rojas	<b>Art Unit</b> 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-12, 15-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. [US 6,875,936].

Claim 1, Suzuki et al. discloses a micromechanical relay [figures 2A and 2B] comprising:

a substrate [1] with a source contact [7], a gate contact [4] and a pair of drain contacts [3a, 3b] mounted there on; and

a deflectable beam [8, 9] including, a conductive beam body having a first end and a second end, said first end of said conductive beam body being attached to said source contact [figure 2b], said conductive beam body extending substantially in parallel

to said substrate such that said second end of said conductive beam body extends over the drain contacts [figure 2b],

a beam contact [5] overhanging said drain contacts, and

an insulator [6] positioned between said second end of said conductive beam body and said beam contact to join said second end of said conductive beam body to said beam contact and to electrically insulate said conductive beam body from said beam contact [figure 2b].

said second end of said conductive beam body, said beam contact, and said insulator forming stacked planar layers [figure 2b].

Claim 2, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said deflectable beam is deflectable to a first position, said first position being when said beam contact is in electrical communication with said drain contact in response to an electrical field of a first strength established between said gate electrode and said conductive beam body; said deflectable beam being deflectable to a second position, said second position being when said beam contact is electrically isolated from said drain contact in response to an electrical field of a second strength established between said gate electrode and said conductive beam body [col. 16 lines 52-60].

Claim 3, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein the substrate comprises glass [col. 16 lines 1-2].

Claim 6, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said insulator comprises silicon nitride, silicon oxide, or aluminum oxide [col. 16 lines 34-37].

Claim 7, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said drain contact comprise gold [col. 15 line 68 to col. 16 line 1].

Claim 8, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said gate contact comprises gold [col. 15 line 68 to col. 16 line 1].

Claim 9, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said source gold [col. 15 line 68 to col. 16 line 1].

Claim 10, Suzuki et al. discloses the micromechanical relay as claimed in claim 1, wherein said micromechanical relay is incorporated into an electrical circuit [figure 14].

Claims 11 and 19, the claimed method steps for making a micromechanical relay would have been necessitated by the product structure as described in claim 1 previously by Suzuki et al.

Claim 12, Suzuki et al. discloses the method as claimed in claim 11, wherein the substrate comprises glass [col. 16 lines 1-2].

Claim 15, Suzuki et al. discloses the method as claimed in claim 11, wherein the insulator comprises silicon nitride, silicon oxide, or aluminum oxide [col. 16 lines 34-37].

Claim 16, Suzuki et al. discloses the method as claimed in claim 11, wherein the drain contact comprises gold [col. 15 line 68 to col. 16 line 1].

Claim 17, Suzuki et al. discloses the method as claimed in claim 11, wherein the gate contact comprises platinum, palladium, titanium, tungsten, rhodium, ruthenium, or gold [col. 15 line 68 to col. 16 line 1].

Claim 18, Suzuki et al. discloses the method as claimed in claim 11, wherein the source contact comprises gold [col. 15 line 68 to col. 16 line 1].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. [US 6,875,936] in view of Zavracky [US 5,638,946].

Claims 4 and 13, Suzuki et al. discloses the claimed invention of an electrically conductive deflectable beam body with the exception of the deflectable beam body comprising nickel, gold, titanium, chromium, copper, or iron.

Zavracky teaches the micromechanical relay wherein said deflectable beam body comprises nickel, gold, titanium, chromium, copper, or iron [col. 5 line 66 to col. 6 line 2].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a different conductive material to construct the deflectable beam body depending on the desired beam characteristics since the materials claimed are well known in the art as conductors.

Claims 5 and 14, Suzuki et al. discloses the claimed invention with the use of an insulator but fails to teach that the insulator comprises polyimide or PMMA.

Zavracky teaches the micromechanical relay as claimed in claim 1, wherein said insulator comprises polyimide or PMMA [col. 6 lines 5-7].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a different insulative material depending on the desired insulative properties between the beam contact and the conductive beam.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within


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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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